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REMARKS

Claims 1-7 and 21-25 are now pending in this application. Claim 1 has been amended, new claims 21-25 have been added, and non-elected claims 8-20 have been cancelled without prejudice to the filing of a divisional application directed to those claims. Claims 21-25 are directed to the imaging module 210 as shown in Figs. 2 and 3 of the application, and relate to claims 1-7 as a subcombination of the claimed combination. Because the combination as claimed in claims 1-7 cannot be used without the subcombination as set forth in claims 21-25, these claims are properly presented in the same application. Reconsideration of this application is requested.

35 U.S.C. § 103 Rejections

The rejection of claims 1, 2 and 5-7 as being unpatentable over DeWolff, PCT Publication No. WO 92/11567, in view of Malloy-Desormeaux, U.S. Patent No. 6,577,821, is traversed to the extent that this ground of rejection may be applied to claim 1 as amended and to new claims 21-25.

The present invention as set forth in claim 1 is directed to an image capturing device having a regionally variable exposure capability. The device includes a shutter device with a plurality of individually addressable shutter elements corresponding to pixel elements of an image sensor that is exposed to light from a scene to be captured by a focusing lens. See Fig. 2, elements 202, 214 and 217. According to the invention, the individual shutter elements of the shutter device may be light-transmissive for different lengths of time than other shutter elements, in accordance with a stored exposure pattern or exposure threshold. See specification, paragraphs 0022-0024.

The Office action alleges that claim 1 would have been obvious to one of ordinary skill in the art at the time of the invention from a proposed combination of DeWolff with Malloy-Desormeaux. In particular, the Office action proposes to modify DeWolff to store "exposure thresholds" as allegedly taught by Malloy-Desormeaux.

In contradistinction to the present invention, DeWolff is directed to a photographic printing system that prints images from photographic negatives. As shown in Fig. 1,

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exposure light from a lamphouse 12 illuminates a photographic negative 14 through an LCD pad 13 and print lens 18 onto photographic paper 20. A CCD video camera 28 "sees" the same image as focused onto the print paper 20 and converts the image into electronic signals that are processed by imaging electronics 30 and sent to computer 32, which in turn controls the LCD pad 13 to optimize the exposure of the negative 14 onto the photographic paper 20. DeWolff is not directed to an image capturing device. DeWolff does not disclose a shutter device positioned between a lens and an image sensor to control exposure of the image sensor. The photographic negative 14 is not an image sensor.

Malloy-Desormeaux discloses a camera that captures an archival image and an assessment image having a different field of view than the archival image. Look-up table 136 as shown in Fig. 4 stores a number of revision suggestions, which are suggested to the camera operator based upon evaluation of exposure information. Fig. 26 shows examples of such revision suggestions. From this it will be understood that the "exposure information" mentioned in Malloy-Desormeaux refers to image composition information, and not light exposure times. Consequently, such revision suggestions do not correspond to exposure thresholds as that term is used in the present application. It would have not been obvious to one of ordinary skill in the art to have modified the photographic printing system of DeWolff to include storage of image revision suggestions as disclosed by Malloy-Desormeaux, because DeWolff does not capture images. Therefore, a user of the DeWolff printing system could make no use of any image revision suggestion as provided by Malloy-Desormeaux.

The rejection of claim 3 as being unpatentable over DeWolff in view of Malloy-Desormeaux and further in view of Lanzillotta, U.S. Patent No. 5,781,333, also is respectfully traversed. Lanzillotta relates to a piezoelectric light shutter device for controlling transmission of light from a source through an array of pixel apertures. Lanzillotta fails to cure the fundamental shortcoming of DeWolff with respect to the claimed invention. As such, the addition of Lanzillotta to the basic combination of DeWolff and Malloy-Desormeaux would fail to render the invention of claim 1 obvious, and therefore cannot render the invention of dependent claim 3 obvious.

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The rejection of claim 4 also is respectfully traversed. The Office action proposes to add the teaching of Shibuya, U.S. Patent No. 5,986,705, to the DeWolff/ Malloy-Desormeaux combination. Shibuya discloses a feedback-based exposure adjustment system wherein an amplified signal from an image sensor is used to adjust the gain or exposure time of the image sensor. Shibuya similarly fails to remedy the deficiencies of DeWolff and Malloy-Desormeaux with respect to the invention of independent claim 1, and therefore the addition of Shibuya to the basic proposed combination of prior art references cannot render claim 4 obvious under §103.

Conclusion

In view of the foregoing, claims 1-7 are submitted to be patentable over the prior art of record, whether considered individually or in combination. Withdrawal of the outstanding grounds of rejection and the issuance of a Notice of Allowance are earnestly solicited.

Please charge any fee or credit any overpayment pursuant to 37 CFR 1.16 or 1.17 to Deposit Account No. 08-2025.

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